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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/645,646	08/24/2000	Shinichiro Hayashi	13041.5US01	3347

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EXAMINER

ROCHE, LEANNA M

ART UNIT	PAPER NUMBER
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1771

DATE MAILED: 01/22/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

AS 6

Office Action Summary	Application No.	Applicant(s)	
	09/645,646	HAYASHI ET AL.	
	Examiner	Art Unit	
	Leanna Roche	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10/29/02.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 27-29 and 31-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-26 and 30 is/are rejected.
- 7) ☒ Claim(s) 3, 18, 19, 21, 22 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Applicant's election without traverse of Claims 1-30 in Paper No. 5 is acknowledged. Applicant's election of species of Claim 30 in Paper No. 5 is acknowledged. Claims 27-29 and 31-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected Group II and nonelected species (feeding-type eraser, knocking-type eraser, and mechanical pencil with end plug portion), there being no allowable generic or linking claim.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Reference numbers 4, 5 and 6 are not shown in Figure 2 as disclosed in Applicant's specification at page 13, lines 2-4. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Objections

3. Claim 3 is objected to because of the following informalities: Claim 3 states, "wherein the said skeleton". The examiner suggests deleting either "the" or "said" from this phrase to eliminate redundant cumbersome language. Appropriate correction is required.

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4. Claims 18 and 22 are objected to because of the following informalities: Claims 18 and 22 disclose a "surface hardness of 50 to 80", but Applicant has not disclosed any units of measurement of these values. Appropriate correction is required.
5. Claim 19 is objected to because of the following informalities: in line 2 of Claim 19, the units of measure, "kgf", is enclosed in parentheses. Because parenthetical phrase are not considered a material part of the claim, the examiner suggests deleting the parentheses. Appropriate correction is required.
6. Claims 21 and 22 are objected to because of the following informalities: in line 2 of Claim 21 and line 3 of Claim 22, Applicant claims a "rate of abrasion", however, Applicant's specification describes this property as a "wear rate". For consistency, the examiner suggests writing "rate of abrasion" as "wear rate". Appropriate correction is required.
7. Claim 22 is objected to because of the following informalities: in line 2 of Claim 22, the units of measure, "kgf", is enclosed in parentheses. Because parenthetical phrase are not considered a material part of the claim, the examiner suggests deleting the parentheses. Appropriate correction is required.

Claim Rejections - 35 USC § 112

8. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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9. Claims 1-26 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

10. Claim 1 is generally narrative and indefinite, failing to conform with current U.S. practice. It appears to be a literal translation into English from a foreign document and is replete with grammatical and idiomatic errors.

11. For example, Claim 1 is vague and indefinite because the phrase “an elastic material of an eraser composition containing at least either a rubber component or a resin component” is unclear. Is applicant claiming an elastic material of an eraser composition, and elastic material of either a rubber component or a resin component, or an elastic material that is an eraser composition, the eraser composition being comprised of either a rubber component or a resin component? For the purposes of examination, the examiner has interpreted this phrase to mean “an elastic material of either a rubber component or a resin component”, and the examiner suggests amending this phrase to read in this manner.

12. Claim 1 is also vague and indefinite because the phrase “from which skeleton portions on the abrasion surface of the elastic material are disconnected and separated together with the abrasion of the elastic material when rubbed” is contradictory and unclear. How can the skeleton portions be “separated” and “together” at the same time? For the purposes of examination, the examiner has interpreted this phrase to be “skeleton portions on a surface of the elastic material and break off when the elastic material is rubbed”.

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13. Claim 1 also recites the limitations "the abrasion surface" and "the abrasion" in lines 5 and 7, respectively. There is insufficient antecedent basis for this limitation in the claim.

14. Claim 6 recites the limitation "the entire volume" in lines 3-4 of the claim. There is insufficient antecedent basis for this limitation in the claim.

15. Claim 10 recites the limitation "the cross sectional shape" in lines 2-3 of the claim. There is insufficient antecedent basis for this limitation in the claim.

16. Claims 2 and 14-22 merely set forth physical characteristics desired in an article, and do not set forth specific compositions which would meet such characteristics. This is considered invalid as vague, indefinite, and functional since it covers any conceivable combination of ingredients either presently existing or which might be discovered in the future and which would impart the desired characteristics.

Thus, with regard to Claim 2, the expression "the skeleton structure is constituted by a porous structural material that is broken when rubbed" is too broad and indefinite. With regard to Claim 14, the expression "the porous structural material has a tensile strength of not more than 3 kgf/cm²" is too broad and indefinite. With regard to Claim 15, the expression "the porous structural material has an extension percentage of not more than 500%" is too broad and indefinite. With regard to Claim 16, the expression "the porous structural material has a compression repulsive force of not less than 0.2 kgf" is too broad and indefinite. With regard to Claim 17, the expression "the porous structural material has a tensile strength of not more than 3 kgf/cm², an extension percentage of not more than 500%, and a compression repulsive force of not less than

0.2 kgf" is too broad and indefinite. With regard to Claim 18, the expression " the eraser has a surface hardness of 50 to 80" is too broad and indefinite. With regard to Claim 19, the expression " the eraser has a sticking strength of 1.5 to 20 kgf" is too broad and indefinite. With regard to Claim 20, the expression " the eraser has a coefficient of friction of not more than 0.8" is too broad and indefinite. With regard to Claim 21, the expression " the eraser has a rate of abrasion of not less than 1%" is too broad and indefinite. With regard to Claim 22, the expression "An eraser having a surface hardness of 50 to 80, a sticking strength of 1.5 to 20 kgf, a coefficient of friction of not more than 0.8 and a rate of abrasion of not less than 1%" is too broad and indefinite.

All of these phrases purport to cover every porous structural material (or eraser with regard to Claims 18-22), which will perform the desired functions regardless of its compositions, and in effect, recites compounds by what is desired that they do rather than what they are. The expression is also too broad since it appears to read upon materials that could not possibly be used to accomplish the purposes intended. See *Ex Parte Slob* (PO Bd App) 157 USPQ 172.

17. Claim 26 provides for the use of an exchanging-use eraser, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim Rejections - 35 USC § 101

18. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

19. Claim 26 is also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

20. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

22. Claims 1-5, 7-11, 14-22 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Imashiro et al. (USPN 5413853).

Imashiro teaches a melamine resin foam impregnated with a chloroprene rubber. The chloroprene rubber of Imashiro reads on Applicant's elastic material comprised of either a rubber or a resin component. The melamine resin foam of Imashiro reads on Applicant's skeleton structure containing the elastic material. Imashiro disclose that it is well known that melamine-formaldehyde resin foams are very fragile (Column 1, lines 20-21) and also discloses that conventional melamine foams have had problems of skeletal fracture during deformation by compression, etc. and consequent detaching of resin fine particles (Column 4, lines 55-58). This reads on Applicant's skeletal portions that are disconnected and separated when rubbed, and Applicant's porous structural material that is broken when rubbed. The open cell foam of Imashiro reads on Applicant's continuous skeleton structure. The melamine resin foam of Imashiro reads on Applicant's porous structural material comprised of an organic polymer. The impregnation of the melamine resin foam of Imashiro with a chloroprene rubber reads on Applicant's elastic material contained in the void portions of the porous structural material. The rubber impregnated melamine resin foam of Imashiro reads on Applicant's porous structural material and elastic material integrated into a composite part. The melamine resin foam of Imashiro reads on Applicant's foamed structural material.

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Although, the melamine resin foam of Imashiro is not directed to an eraser, a preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). In the present case, Imashiro recites the structural limitations of Applicant's claims. Therefore, the impregnated foam of Imashiro reads on Applicant's "eraser".

With regard to Claims 8 and 9, Imashiro does not specifically disclose the thickness of the skeletal portion (cell walls) of their melamine resin foam, nor do they disclose the average pore size of their melamine resin foam. However, it appears that melamine resin foam of Imashiro is substantially identical to the presently claimed skeleton structure because both may be comprised of continuous foams of melamine resin. Thus, it is believed by the examiner that the melamine resin foam of Imashiro inherently possesses a thickness of the skeletal portion (cell walls) of their porous material and average pore size with Applicant's presently claimed ranges. Additionally, the presently claimed cross-sectional cell shape would have obviously been present once the melamine resin foam of Imashiro was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

With regard to Claim 10, Imashiro does not specifically disclose the cross-sectional shape of the cells of their melamine resin foam. However, it appears that melamine resin foam of Imashiro is substantially identical to the presently claimed porous structural material because both may be comprised of foams of melamine resin. Thus, it is believed by the examiner that the melamine resin foam of Imashiro inherently possesses a cross-sectional cell shape that is either substantially polygonal or circular. Additionally, the presently claimed cross-sectional cell shape would have obviously been present once the melamine resin foam of Imashiro was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

With regard to Claims 14-17, Imashiro does not specifically disclose the tensile strength, extension percentage or compression repulsive force of their melamine resin foam. However, it appears that melamine resin foam of Imashiro is substantially identical to the presently claimed porous structural material because both may be comprised of foams of melamine resin. Thus, it is believed by the examiner that the melamine resin foam of Imashiro inherently possesses a tensile strength, extension percentage or compression repulsive force within Applicant's presently claimed ranges. Additionally, the presently claimed tensile strength, extension percentage or compression repulsive force would have obviously been present once the melamine resin foam of Imashiro was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

With regard to Claims 18-22, Imashiro does not specifically disclose the hardness, sticking strength, coefficient of friction or rate of abrasion of their impregnated melamine resin foam. However, it appears that the impregnated melamine resin foam of Imashiro is substantially identical to the presently claimed porous structural material because both may be comprised of foams of melamine resin which have been impregnated with a rubber elastic material. Thus, it is believed by the examiner that the impregnated melamine resin foam of Imashiro inherently possesses a hardness, sticking strength, coefficient of friction and rate of abrasion within Applicant's presently claimed ranges. Additionally, the presently claimed hardness, sticking strength, coefficient of friction and rate of abrasion would have obviously been present once the impregnated melamine resin foam of Imashiro was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

23. Claims 1-5, 7-11 and 23 rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Noboru (JP 08-258493).

Noboru discloses an eraser comprising a porous material that is impregnated with a vinyl chloride resin and plasticizer. The vinyl chloride resin and plasticizer of Noboru reads on Applicant's elastic material comprising a rubber or resin component. The porous material of Noboru reads on Applicant's skeletal structure containing the elastic material. Noboru disclose that their porous material wears as it undergoes scratching. This reads on Applicant's skeletal portions that are disconnected and

separated when rubbed, and Applicant's porous structural material that is broken when rubbed. The porous material of Noboru reads on Applicant's continuous skeleton structure because it comprises a continuous binder portion. The porous material of Noboru reads on Applicant's porous structural material comprised of an organic polymer because it comprises a binder portion. The impregnation of porous structure of Noboru with a vinyl chloride and plasticizer reads on Applicant's elastic material contained in the void portions of the porous structural material. The vinyl chloride impregnated porous material of Noboru reads on Applicant's porous structural material and elastic material integrated into a composite part. The porous material of Noboru reads on Applicant's foamed structural material. Noboru discloses incorporating a coloring agent into the base material of Noboru. This reads on Applicant's elastic material of the eraser composition being colored.

With regard to Claims 8 and 9, Noboru states that if the pore diameter is too small, it becomes difficult to impregnate the porous material with the base material (vinyl chloride), but Noboru does not specifically disclose the thickness of the skeletal portion (cell walls) of their porous material, nor do they disclose the average pore size of their porous material. However, it appears that the porous material of Noboru is substantially identical to the presently claimed skeleton structure because both may be comprised of continuous, porous organic materials and both the skeletal portion (cell wall) thickness and the average pore size claimed by Applicant consist of very broad ranges. Thus, it is believed by the examiner that the porous material of Noboru inherently possesses a thickness of the skeletal portion (cell walls) of their porous material and average pore

size with Applicant's presently claimed ranges. Additionally, the presently claimed cross-sectional cell shape would have obviously been present once the porous material of Noboru was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

With regard to Claim 10, Noboru does not specifically disclose the cross-sectional shape of the cells of their porous material. However, it appears that the porous material of Noboru is substantially identical to the presently claimed porous structural material because both may be comprised of continuous, porous organic materials. Thus, it is believed by the examiner that the porous material of Noboru inherently possesses a cross-sectional cell shape that is either substantially polygonal or circular. Additionally, the presently claimed cross-sectional cell shape would have obviously been present once the porous material of Noboru was provided. See *In re Best*, 195 USPQ 433 footnote 4 (CCPA 1977) as to the providing or this rejection under 35 USC 102 as well as 35 USC 103.

24. Claims 6 and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Noboru (JP 08-258493).

Noboru discloses the claimed eraser, as explained above, but Noboru does not disclose the filling rate of their porous material by their base material vinyl chloride and plasticizer. It would have been obvious to the skilled artisan at the time this invention was made to fill between 50% and 100% of the voids of the porous material of Noboru with the base material of Noboru, since it has been held that where the general

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conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. In the present case, it would have been obvious to fill between 50% and 100% of the voids of the porous material of Noboru with the base material of Noboru because the greater the filling rate, the greater the density of the eraser, and greater density will increase the overall strength of the eraser.

With regard to Claims 14-17, Noboru does not disclose the tensile strength, extension percentage or compression repulsive force of the porous material of their eraser. It would have been obvious to the skilled artisan at the time this invention was made to optimize the tensile strength, extension percentage and compression repulsive force of the porous material of the eraser material, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. In the present case, it would have been obvious to optimize the tensile strength, extension percentage and compression repulsive force of the porous material of the eraser material because motivated by the desire to produce an eraser with improved flexural strength and strengthened elasticity (which would be related to tensile strength and extension percentage, respectively), and an eraser which does not produce a lot of damage during erasing (which would be related to the compression repulsive force). See Noboru Abstract for these desired features.

With regard to Claims 18-22, Noboru does not disclose the surface hardness, sticking strength, coefficient of friction or rate of abrasion of their eraser. However, it

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would have been obvious to the skilled artisan at the time this invention was made to optimize the hardness, sticking strength, coefficient of friction and rate of abrasion of their eraser, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. See *In re Aller*, 105 USPQ 233. In the present case, it would have been obvious to optimize the hardness, sticking strength, coefficient of friction and rate of abrasion of the eraser Noboru, motivated by the desire to produce an eraser with improved flexural strength and strengthened elasticity and an eraser which does not produce a lot of damage during erasing. See Noboru Abstract for these desired features. The hardness, sticking strength and coefficient of friction would all directly affect the amount of damage produce by the eraser to the substrate on which the erasing is performed. Improving the rate of abrasion would result in a longer lasting eraser.

25. Claims 26 and 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sturzenegger (USPN 2487903) in view of Noboru (JP 08-258493).

Sturzenegger is directed to a motor-driven adjustable eraser wherein the erasing means may consist of any suitable material (Column 1, lines 38-41). Noboru is directed to an eraser material with improved strength which causes less damage when erasing. It would have been obvious to the skilled artisan at the time this invention was made to use the eraser material of Noboru in the motor-driven eraser of Sturzenegger, motivated

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by the desire to obtain an electrical eraser with improved eraser strength while reducing eraser caused damage.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leanna Roche whose telephone number is 703-308-6549. The examiner can normally be reached on Monday through Friday from 8:30 am to 6:00 pm (with alternate Mondays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



Imr
January 10, 2003



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